

REMARKS

Claims in the case are 1, 3-5, 7, 9, 10, 12, 17-24 and 28-30 upon entry of this amendment. Claim 1 has been amended, Claims 2, 8, 13-16 and 25-27 have been cancelled, and Claim 30 has been added herein. Basis for added Claim 30 is found at page 9, lines 1-5 of the specification. Entry of the present amendment is respectfully requested, as it is believed: not to involve the entry of new matter; not to raise new issues relative to patentability; and to place the case in condition for allowance.

Claims 1-5, 7-10 and 12-29 stand rejected under 35 U.S.C. §112, first paragraph. This rejection is respectfully traversed with regard to the amendments herein and the following remarks.

Claim 1 has been amended herein to recite the polyol component (I) as being selected from polyols represented by general formulas (I)-(v) having an even number of -OX groups, where X is hydrogen or an acyl residue of an aliphatic carboxylic acid. Basis for the amendment to Claim 1 is found at page 8, line 7 through page 9, line 21 of the specification. Claim 1, as presently amended, is deemed to be fully supported by the specification. In light of the amendment to Claim 1, Claims 2 and 13-16 have been cancelled herein.

In light of the amendments herein and the preceding remarks, Applicants' specification is deemed to describe their invention, in particular with regard to Claim 1, in such full, clear, concise and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same. Reconsideration and withdrawal of this rejection is respectfully requested.

Claims 1-5, 7-10 and 12-29 stand rejected under 35 U.S.C. §112, second paragraph. This rejection is respectfully traversed in light of the amendments herein and the following remarks.

Claim 1 has been amended as discussed previously herein, and is deemed to particularly point out and distinctly claim the subject matter which Applicants' regard as their invention. Claims 8 and 25-27 have been cancelled herein.

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In light of the amendments herein and the preceding remarks, Applicants' claims are deemed to particularly point out and distinctly claim the subject matter which they regard as their invention. Reconsideration and withdrawal of this rejection is respectfully requested.

Claims 1-5, 7-10 and 12-27 stand rejected under 35 U.S.C. §103(a) as being unpatentable over United States Patent No. 4,131,575 (Adelmann et al). This rejection is respectfully traversed in light of the amendments herein and the following remarks.

Adelmann et al disclose thermoplastic molding materials of high molecular weight, thermoplastic, aromatic polycarbonates, and 0.01 to 0.1 wt.% of esters of C₁₀₋₂₀ saturated aliphatic carboxylic acids with 4- to 6-hydric alcohols (abstract). The ester component may include pentaerythritol tristearate, or an oligomeric ester prepared from 1.0 mole of pentaerythritol, 2.4 moles of stearic acid, and 0.3 moles of dodecane diacid (DDDA), which would serve to oligomerize the reaction components. See column 11, Examples IV(B) and IV(C) of Adelmann et al.

It is argued on page 4 of the Office Action of 4 December 2002 that Adelmann et al's disclosure of what the Examiner calls "partial esters" (with reference to the oligomeric ester formed from 1.0 mole pentaerythritol / 2.4 moles stearic acid / 0.3 moles DDDA) somehow renders Applicants' claimed invention obvious. Applicants' respectfully disagree, and point out that Adelmann et al's disclosed carboxylic acid esters do not have the same number of hydroxyl groups and ester groups. In particular, the carboxylic acid esters disclosed by Adelmann et al have 1 hydroxyl group and 3 ester groups. The oligomeric ester disclosed by Adelmann et al would have 1 free hydroxyl group for every 3 ester groups (1.0 mole pentaerythritol -> 4 OH's; 2.4 moles stearic acid -> 2.4 moles carboxylic acid groups; and 0.3 moles DDDA -> 0.6 moles carboxylic acid groups). Adelmann et al's disclosure of carboxylic acid esters having an **unequal number** of ester groups and free hydroxyl groups does not disclose, teach, suggest or otherwise extend to or touch upon the compositions of Applicants' present claims which include a polyol component having the same number (i.e., an **equal number**) of free hydroxyl groups and ester groups.

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In light of the amendments herein and the preceding remarks, Applicants' claims are deemed to be unobvious and patentable over Adelmann et al. Reconsideration and withdrawal of this rejection is respectfully requested.

Claims 1-5, 7-10 and 12-29 stand rejected under 35 U.S.C. §103(a) as being obvious over Adelmann et al in view of United States Reissued Patent No. US RE37,200 E (Dunay et al) or European Patent Application No. 0 511 640 (Shimada). This rejection is respectfully traversed with regard to the amendments herein and the following remarks.

Adelmann et al has been discussed previously herein. Adelmann et al disclose carboxylic acid esters having an unequal number of free hydroxyl groups and ester groups. Adelmann et al do not disclose, teach or suggest a thermoplastic polycarbonate composition which includes a mold release agent having at least one polyol component (I) selected from general formulas (I) through (v), wherein polyol component (I) has the same number (i.e., an equal number) of esterified groups and free hydroxyl groups.

Dunay et al disclose discoloration resistant thermoplastic polycarbonate molding compositions (which are free from organo phosphorus compounds) which include a polycarbonate resin, and as necessary components, a dimeric benzotriazole and an ester of 3,5-di-tert-butyl-4-hydroxyhydrocinnamic acid (abstract). However, Dunay et al do not disclose, teach or suggest a thermoplastic polycarbonate composition which includes a mold release agent having at least one polyol component (I) selected from general formulas (i) through (v), wherein polyol component (I) has the same number (i.e., an equal number) of esterified groups and free hydroxyl groups.

Shimada discloses a molding composition which includes a polycarbonate having a specific viscosity range, and 0.001 to 0.1 pphr of a saturate monovalent fatty acid monoglyceride (abstract). The molding compositions of Shimada are disclosed as being useful in the fabrication of optical moldings, such as compact disks (page 2, lines 1-4). However, Shimada does not disclose, teach or suggest a thermoplastic polycarbonate composition which includes a mold release agent having at least one polyol component (I) selected from general formulas (i) through

(v), wherein polyol component (I) has the same number (i.e., an equal number) of esterified groups and free hydroxyl groups.

Adelmann, Dunay et al and Shimada, either alone or in combination do not disclose, teach or suggest the thermoplastic polymer mixtures of Applicants' present claims. In particular, none of Adelmann, Dunay et al and Shimada disclose, teach or suggest a thermoplastic polymer mixture that includes a mold release agent having at least one polyol component (I) selected from general formulas (i) through (v), wherein polyol component (I) has the same number (i.e., an equal number) of esterified groups and free hydroxyl groups. As such, even if Adelmann were combined with Dunay et al and/or Shimada, Applicants' presently claimed compositions would not result therefrom.

Further, Adelmann, Dunay et al and Shimada, either alone or in combination do not disclose, teach or suggest the unexpected results that the thermoplastic polymer mixtures of Applicants' present claims provide. Attention is directed to the Examples on pages 12-19 of the specification. Polymer mixtures according to Applicants' present invention provide a combination of reduced coefficient of friction (see the table on page 15), and improved product stability (see the tables on page 17 of the specification), relative to comparative polymer mixtures that contain mold release agents outside the limitations of present Claim 1. In the Examples, Example-1 (which is according to Applicants' invention) includes an aromatic thermoplastic polycarbonate resin and a fatty diester of pentaerythritol (i.e., the number of ester groups and hydroxyl groups are equivalent). Comparison Example-2 includes an aromatic thermoplastic polycarbonate resin and a glycerin monostearate (i.e., 2 hydroxyl groups, and one ester group; the number of ester groups and hydroxyl groups are not equivalent). Comparative Example-2 is deemed to be representative of a carboxylic acid ester having an unequal number of free hydroxyl and ester groups. Comparison Example-3 includes an aromatic thermoplastic polycarbonate resin and a tetraester of pentaerythritol (i.e., 4 ester groups and no hydroxyl groups; the number of ester groups and hydroxyl groups are not equivalent).

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In light of the amendments herein and the preceding remarks, Applicants' claims are deemed to be unobvious and patentable over Adelmann et al in view of Dunay et al or Shimada. Reconsideration and withdrawal of this rejection is respectfully requested.

In light of the amendments herein and the preceding remarks, Applicants' presently pending claims are deemed to meet all the requirements of 35 U.S.C. §112, and to define an invention that is unanticipated, unobvious and hence, patentable. Reconsideration of the rejections and allowance of all of the presently pending claims is respectfully requested.

Respectfully submitted,

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VERSIONS WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS: (Marked-Up)

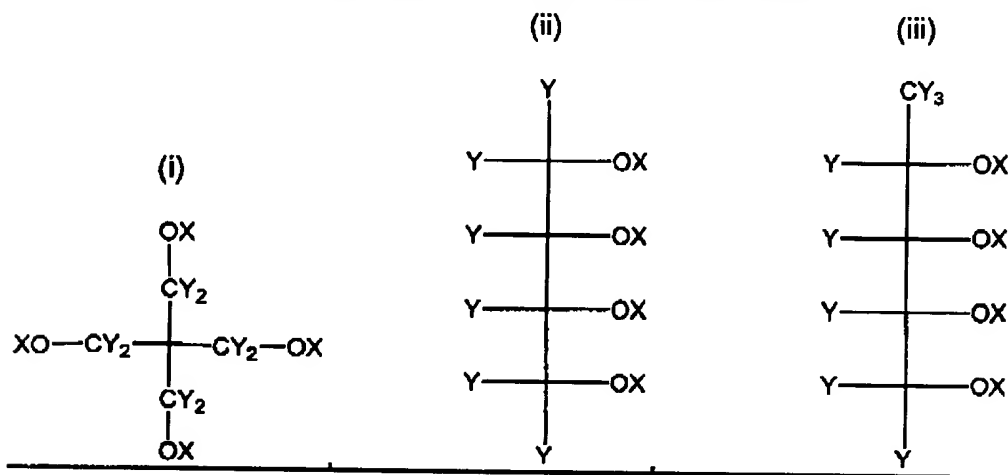
The following are versions of the amended claims with markings to show changes made thereto in the present Amendment.

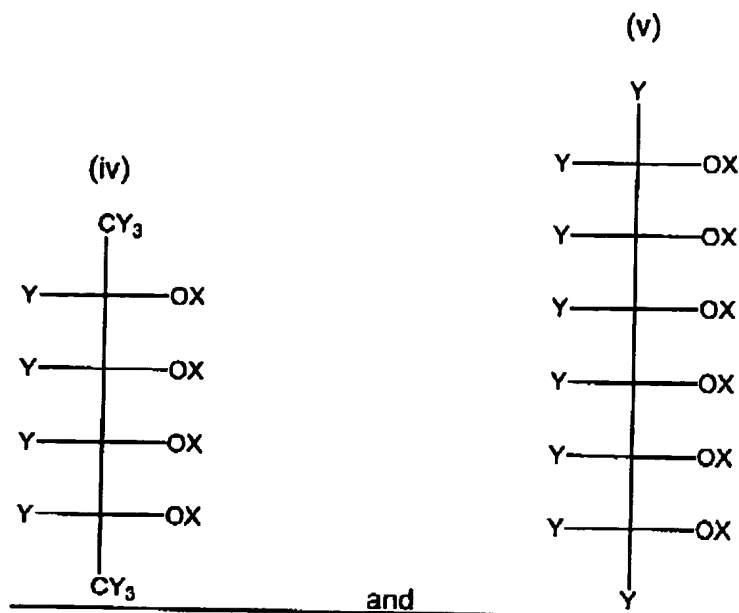
1. (Thrice Amended, Marked-Up) Thermoplastic polymer mixtures comprising:

at least one polycarbonate; and

at least one mould release agent with at least one polyol component;

wherein [at least one] said polyol component (I) of said mould release agent [consists of a parent substance with 4 or more carbon atoms, 3 or more hydroxyl groups, more than one hydroxyl group esterified with aliphatic carboxylic acids, and one or more free hydroxyl groups,] is selected from at least one member of the group consisting of polyols represented by the following formulas.





X independently represents a hydrogen or an aliphatic acyl residue of an aliphatic carboxylic acid, and

Y independently represents a member selected from the group consisting of hydrogen, alkyl and aryl groups,

said polyol component (I) having esterified groups and free hydroxyl groups, the number of esterified groups and free hydroxyl groups of said polyol component (I) being the same.

30. (Added) The thermoplastic polymer mixture of Claim 1 wherein Y is selected independently from the group consisting of hydrogen, methyl, ethyl, propyl, butyl and phenyl groups.